

NDR - Near Drowning

NDR-AP ANATOMY AND PHYSIOLOGY

OUTCOME: The patient/family will understand the pathophysiology of near drowning.

STANDARDS:

1. Explain that the most important contribution to morbidity and mortality resulting from near drowning is hypoxemia and decrease in oxygen delivery to vital tissues.
2. Explain that the pathophysiology of near drowning is intimately related to the multiorgan effects of hypoxemia.
3. Explain that central nervous system (CNS) damage may occur as a result of hypoxemia sustained during the drowning episode or secondarily because of pulmonary damage and subsequent hypoxemia.
4. Explain that aspiration of fluid and vasoconstriction can result in significantly impaired gas exchange. Explain that acute respiratory distress syndrome (ARDS) may develop as a result of aspiration.
5. Explain that myocardial dysfunction may result from ventricular dysrhythmias and asystole due to hypoxemia. In addition, hypoxemia may directly damage the myocardium, decreasing cardiac output.
6. Explain that metabolic acidosis may impair cardiac function.

NDR-C COMPLICATIONS

OUTCOME: The patient/family will understand the complications resulting from near drowning and how it relates to their specific condition.

STANDARDS:

1. Explain that the following may result from the near drowning experience:
 - a. Neurologic injury (c spine or head trauma)
 - b. Pulmonary edema or ARDS
 - c. Secondary pulmonary infection
 - d. Multiple organ system failure
 - e. Acute tubular necrosis
 - f. Myoglobinuria
 - g. Hemoglobinuria
2. Explain that the risk of serious complications may be reduced by seeking prompt medical attention.

NDR-FU FOLLOW-UP

OUTCOME: The patient/family will understand the importance of follow-up in the treatment of near drowning.

STANDARDS:

1. Discuss the importance of follow-up care.
2. Discuss the procedure for obtaining follow-up appointments and that follow-up appointments should be kept.
3. Emphasize that full participation of the treatment plan is the responsibility of the patient/family.
4. Discuss signs/symptoms that should prompt immediate follow-up.
5. Discuss the availability of community resources and support services and refer as appropriate.

NDR-L LITERATURE

OUTCOME: The patient/family will receive literature about near drowning.

STANDARDS:

1. Provide the patient/family with literature on near drowning.
2. Discuss the content of the literature.

NDR-M MEDICATIONS

OUTCOME: The patient/family will understand the purpose, proper use, and expected outcomes of prescribed drug therapy.

STANDARDS:

1. Describe the name, strength, purpose, dosing directions, and storage of the medication.
2. Discuss the risks, benefits, and common or important side effects of the medication and follow up as appropriate.
3. Discuss any significant drug/drug, drug/food, and alcohol interactions, as appropriate.
4. Discuss the importance of keeping a list of all current prescriptions and over-the-counter medicines, vitamins, herbs, traditional remedies, and supplements. Encourage the patient to bring this list and pill bottles to appointments for medication reconciliation.

NDR-P PREVENTION

OUTCOME: The patient/family will understand and make a plan for the prevention of drowning.

STANDARDS:

1. Explain that the key to the prevention of drowning is education.
2. Explain that parents should be aware of their own as well as their children's limitations around water. Emphasize that children must be supervised when near water even if not swimming.
3. Instruct patients/family to never swim alone and always supervise children when swimming.
4. Emphasize the importance of safe conduct around water and during boating and water or jet skiing.
5. Discourage the use of alcohol or recreational drugs while around water.
6. Encourage the use of appropriate boating equipment, (personal flotation devices)
7. Encourage the patient/family to be aware of weather and water conditions prior to boating or swimming.
8. Encourage patient/family members to learn CPR and rescue techniques.
9. Encourage patient/family to check water depth and underwater hazards (e.g., rocks, drop-offs, currents) prior to swimming and diving.
10. Emphasize the importance of providing fencing and locking gates around swimming pools.
11. Explain that the following medical conditions may increase risk for drowning:
 - a. Seizure disorders
 - b. Diabetes mellitus
 - c. Significant coronary artery disease
 - d. Severe arthritis
 - e. Musculoskeletal disorders

NDR-TE TESTS

OUTCOME: The patient/family will understand the test(s) to be performed, including indications and impact on further care.

STANDARDS:

1. Explain the test ordered and collection method.

2. Discuss the necessity, benefits and risks of the test to be performed, as appropriate, including possible complications that may result from not having the test performed.
3. Explain how the test relates to the course of treatment.
4. Discuss the meaning of the test results, as appropriate.